

## What is Claimed is:

- [c1] 1. A method for reducing distortion in charged particle lithographic masks, comprising the steps of:  
  - adding a dummy fill shape in an unexposed region of a mask; and
  - applying a blocking layer to the region of the dummy fill shape.
- [c2] 2. The method of claim 1 wherein the blocking layer is an aperture.
- [c3] 3. The method of claim 2 where the step of applying further comprises sliding an aperture over the dummy shape.
- [c4] 4. The method of claim 2 wherein the aperture is adjustable.
- [c5] 5. The method of claim 1 where the step of applying blocking layer occurs by using a second mask with an opaque region where the dummy fill shape is.
- [c6] 6. The method of claim 1 where the step of applying the blocking layer occurs by depositing a low stress material that covers the dummy fill shape.
- [c7] 7. The method of claim 1 where the step of applying the blocking layer occurs by forming a second membrane layer on the mask and patterning the membrane.
- [c8] 8. The method of claim 7 wherein the blocking layer is created by using a SOI starting substrate.
- [c9] 9. The method of claim 1 where the step of applying the blocking layer occurs after a stencil mask is fabricated.
- [c10] 10. The method of claim 9 where the blocking layer is fabricated by first applying thin support layer over the stencil mask.
- [c11] 11. A charged particle lithographic device, which comprises:  
  - a dummy shape in an unexposed region of a mask; and
  - a blocking layer covering the dummy shape in such a manner as to prevent the dummy shape from printing

- [c12] 12. The device of claim 11, wherein the blocking layer is a structure separate from the mask.
- [c13] 13. The device of claim 12, wherein the separate structure is an aperture.
- [c14] 14. The device of claim 12, wherein the separate structure is an additional mask.
- [c15] 15. The device of claim 13, wherein, the aperture is adjustable.
- [c16] 16. The device of claim 14 wherein the additional mask has an opaque region where the dummy fill shape is.
- [c17] 17. The device of claim 11 wherein the blocking layer is a low stress material deposited in a region on the mask covering the dummy fill shape.
- [c18] 18. The device of claim 11 wherein the blocking layer is deposited on a second membrane layer on the mask.
- [c19] 19. The device of claim 18 wherein the blocking layer is created by using a SOI starting substrate.
- [c20] 20. The method of claim 9 wherein the blocking layer is fabricated on a stencil mask.